

to claim any and all modifications and variations that fall within the true scope of the present concepts.

What is claimed is:

1. A multi-dimensional effect system for creating a multi-dimensional effect image, the system comprising:

an eyewear device including:

- a frame having a temple connected to a lateral side of the frame; and
- a depth-capturing camera configured to capture a left raw image and a right raw image having overlapping views;

an image display for presenting images, including an original image, wherein the original image is based on the left raw image, a left processed image, the right raw image, a right processed image, or combination thereof;

an image display driver coupled to the image display to control the image display to present the original image;

a user input device to receive mark-ups for images, a multi-dimensional effect selection, and a style selection from a user;

a memory and a processor coupled to the depth-capturing camera, the image display driver, the user input device, and the memory; and

programming in the memory, wherein execution of the programming by the processor configures the multi-dimensional effect system to perform functions, including functions to:

capture, via the depth-capturing camera, the left raw image and the right raw image;

present, via the image display, the original image;

receive, via the user input device, the markups, the multi-dimensional effect selection, and the style selection from the user;

create at least one multi-dimensional effect image with a multi-dimensional effect scene in each of at least two dimensions in response to the multi-dimensional effect selection using the markups and the style selection;

apply the multi-dimensional effect images to: (i) the left raw image or the left processed image to create a left multi-dimensional effect image, (ii) the right raw image or the right processed image to create a right multi-dimensional effect image, or (iii) combination thereof in each of the at least two dimensions;

generate a multi-dimensional light field effect image having an appearance of a spatial movement or rotation around the multi-dimensional effect scene of the at least one multi-dimensional effect image and transitional change between the at least two dimensions, by blending together the left multi-dimensional effect image and the right multi-dimensional effect image in each of the at least two dimensions and blending the blended left and right multi-dimensional effect images from the at least two dimensions; and

present, via the image display, the multi-dimensional light field effect image.

2. The system of claim 1, wherein the function to receive the style selection comprises functions to:

receive a selection of an image from a user; and

wherein the function to create the at least one multi-dimensional effect image with the multi-dimensional effect scene in each dimension comprises function to:

apply the image selection to the markups using neural style transfer in at least one dimension.

3. The system of claim 2, wherein the function to create the at least one multi-dimensional effect image comprises the functions to:

receive a filter selection; and

apply the selected filter in one of the at least two dimensions.

4. The system of claim 1, wherein the user input device comprises:

an inertial measurement unit configured to develop the spatial movement or rotation around the multi-dimensional effect scene of the at least one multi-dimensional light field effect image and the transitional change between the at least two dimensions.

5. The multi-dimensional effect system of claim 1, wherein the programming further comprises a function to:

calculate: (i) a left image disparity map between a left pixel matrix of pixels and a right pixel matrix of pixels, and (ii) a right image disparity map between the right pixel matrix and the left pixel matrix, wherein the left raw image or the left processed image include the left pixel matrix, and the right raw image or the right processed image include the right pixel matrix;

wherein:

the function to generate the multi-dimensional effect image includes functions to, in each dimension:

determine a horizontal position movement parameter along an X axis of the left pixel matrix and the right pixel matrix;

fill up a left interpolated pixel matrix by moving pixels in the left pixel matrix along the X axis based on the horizontal movement parameter;

fill up a right interpolated pixel matrix by moving pixels in the right pixel matrix along the X axis based on the horizontal movement parameter; and

create the multi-dimensional light field effect image by blending together the left interpolated pixel matrix and the right interpolated pixel matrix.

6. The multi-dimensional effect system of claim 5, wherein:

the function of generating the multi-dimensional light field effect image by blending together the left interpolated pixel matrix and the right interpolated pixel matrix is based on disparity confidence levels, gradients, or combination thereof in the left image disparity map and the right image disparity map.

7. The multi-dimensional effect system of claim 5, wherein the function to generate the multi-dimensional effect image further includes a function to:

determine a vertical position movement parameter along a Y axis of the left pixel matrix or the right pixel matrix.

8. The multi-dimensional effect system of claim 7, wherein the function to determine the horizontal position movement parameter and the vertical position movement parameters includes functions to:

receive, via the user input device, a two-dimensional input selection of the presented original image from the user;

track, via the user input device, motion of the two-dimensional input selection in a horizontal direction from an initial touch point to a final touch point of the presented original image; and